1.0 INTRODUCTION

This effort was undertaken by Tetra Tech EM Inc. (Tetra Tech) to provide technical analysis and project coordination services to the Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control (BAPC) and Bureau of Air Quality Planning (BAQP) to accurately evaluate and document the current status of Prevention of Significant Deterioration (PSD) increments in hydrographic areas 76, 83, and 85 (HA76, HA83, and HA85). The information and tools that result from the project can be used to provide local planners, developers and industry with the tools necessary to assure maintenance of air quality within allowable limits.

This report represents a revised version of the previously completed PSD impact modeling conducted for the Air Quality Modeling Report: Assessment of PSD Increment in the Fernley Area and Truckee River Corridor, as originally provided to BAPC and BAQP on March 14, 2002. Tetra Tech updated the PSD increment analyses for Air Quality Control Regions (AQCRs) HA76, HA83, and HA85. The updates to the Truckee River Corridor study involved the use of the AERMOD dispersion model. The AERMOD dispersion model used was an executable version of the FORTRAN code compiled using an up to date version of the Lahey FORTRAN-90 compiler. The FORTRAN code was obtained directly from EPA, and the only modifications made to the code were for the purpose of increasing the source and receptor array sizes. The emission source inventory updates included updates to the Kal Kan, All-Lite, Eagle-Picher, Alcoa, and Sierra Pacific Power Company (SPPCo) Tracy facility source data. The proposed modeling used the full receptor sets established in the original Truckee River Corridor study for each AQCR. The most recent two years of AERMET processed meteorological data available, 2000 and 2001, were used for current impact modeling. Baseline modeling was accomplished using meteorological data years 2000 and 2001 for HA76, 1993 for HA83, and 1995 for HA85. Revised PSD increment impacts for HA83 and HA85 using the new source data were calculated using an unpaired-in-time analysis that subtracts the baseline impacts from the current impacts. However, a paired-in-time approach was used to determine the HA76 increments because a complete set of baseline 1982 meteorological data was not available.

This report is organized to give the reader some background about the project's goals and phases, as well as background on the regulations driving this project. The report then describes key components in the project, such as the emission inventory and air quality modeling of the PSD increment in HA76, HA83, and HA85. The final section of the report summarizes the results of the PSD increment study and Tetra Tech's recommendations for future actions. All modeling files used in this study are presented in Appendix A.